

BIOLOGIK

NATURALLY SUSTAINABLE

ADVANCED BIOLOGICAL LIQUID FORMULATIONS



ODOUR NEUTRALIZER

A liquid bacterial concentrate which combines unique chemistry and application-specific bacteria to offer a proven, innovative and effective long-term approach to odour control

BIOLOGIK ODOUR NEUTRALIZER

Overview

Odours are a major problem in many situations. Products such as air fresheners are generally perfumes that use a strong, pleasant smell to mask the bad odour, but they usually work for only a short time and are easily overpowered. A range of chemical odour counteractant technologies have been developed and are now used in major retail brands. However, Bio Logik has taken the best of these technologies and combined it with bacteria, which gives a three pronged attack on odour problems:

- The fragrance already present helps to immediately reduce the malodour.
- The unique chemical odour counteractant then binds any existing odour molecules, preventing them from being detected by the nose.
- The application-specific bacteria in the product produce extracellular enzymes that degrade organic matter such as proteins in the application area. The products of this degradation are then taken into the bacteria cells and used for growth. The slow breakdown of these materials, which would otherwise result in the formation of many malodourous compounds, cannot occur and the odour is prevented at the source. This bacteria has also been proven capable of the degradation of volatile fatty acids (VFA's).

Applications

- Odour Control for: Washrooms, Carpets, Fabric care
- Vehicle Interiors
- Sports equipment
- Shoes
- Refuse collection areas
- Pet areas, cages & pens
- Agricultural production facilities
- Highly effective against spoiled food, fish, cigarette smoke & other odourous compounds

Advantages of BIOLOGIK Odour Neutralizer

Superior formulation with focus on complete odour elimination

Unique odour encapsulation technology binds and traps odours immediately

Optimized proprietary bacterial consortium degrades a broader spectrum of substrates: biological action removes odours at source

Readily biodegradable, low toxicity components to minimize environmental impact

Modern bacteria-compatible chemistry for maximum Product performance

Highly effective formulation: product effective against a wide range of odours, efficacy has been proven by extensive field trials

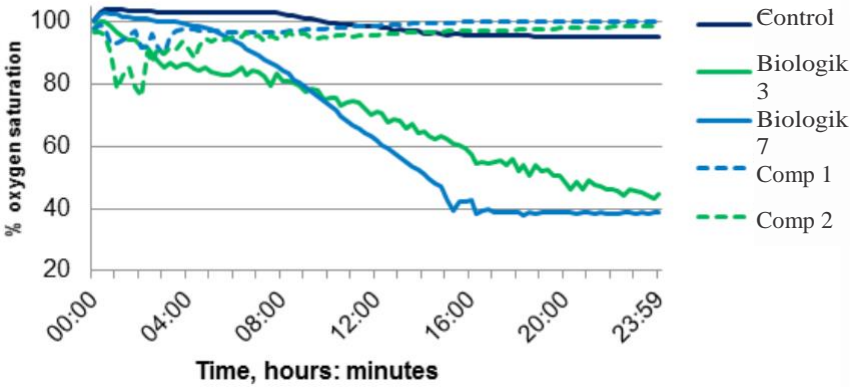
Long product shelf life - as supplied and post dilution

Manufactured in accordance with recognized international standards, ISO 9001 and ISO 14001



Product testing

Milk protein degradation

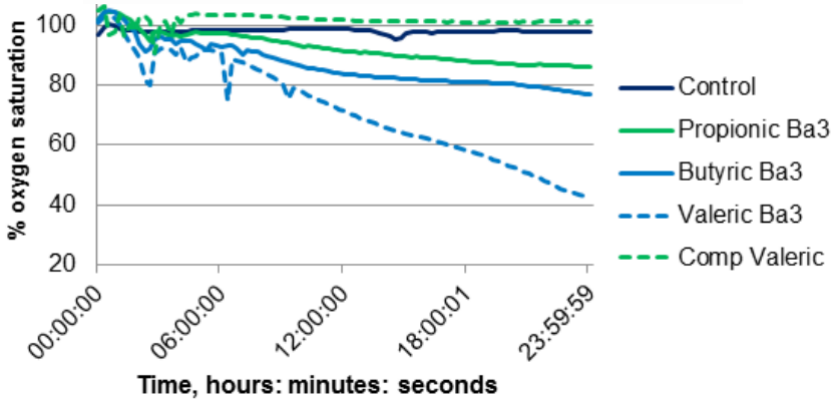


This graph shows the degradation of casein (milk protein) by two of the strains in BIOLOGIK Odour Neutralizer. As the substrate is consumed, the oxygen saturation decreases (solid lines). The capability against casein of a major competitor is shown in the dotted lines.

We have always said that a major mode of action of bacteria on odours is the ability to degrade relatively insoluble organic materials quickly and extensively. If not treated, these materials are broken down slowly by environmental bacteria, including the formation of amines and de-animation forming ammonia.

The odour formation is prevented at source by rapid and extensive degradation of the protein by the product bacteria.

Volatile fatty acid degradation by our strains



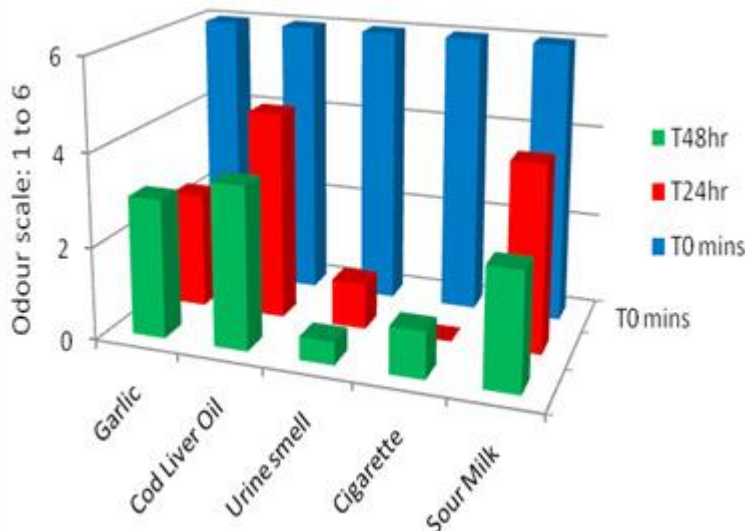
We have since demonstrated a second mode of action of BioLogik bacteria.

The graph shows degradation of on propionic, butyric and valeric acids by our key strains (green and blue solid lines, blue dotted line).

This is a previously unknown mode of action for *Bacillus*, and again the strain from the competitor product has no effect on this substrate (green dotted line).

Thus we have at least two modes of action on odours for the bacterial component of this product.

Odour panel test



Various odours were absorbed onto pieces of non-woven fabric placed in disposable containers. Two sprays of BIOLOGIK Odour Neutralizer were added and the control containers did not receive any addition.

The performance of the product against the odours was assessed 'blind', at the start and after 24 and 48 hours by a six person odour panel, using a scoring system from zero to six (no odour to very strong odour).

This data demonstrates the effectiveness of BIOLOGIK Odour Neutralizer in reducing a range of offensive malodours, in this case garlic, fish oil, a urine smell, cigarette smoke and sour milk for long periods.

Long term odour reduction indicates the action of the bacteria: we have similar data when testing the BIOLOGIK Odour Neutralizer application specific bacterial consortium.



Technical specifications

targeted compounds	wide range of malodourous organic compounds including ammonia, hydrogen sulfide, volatile fatty acids and mercaptans	
	also degradation of proteins, starches, cellulose and fats, oils and greases	
bacterial type	<i>Bacillus</i> spore blend	
formula properties	fragranced version - turbid, straw colored liquid with fresh fragrance un-fragranced version - turbid, straw colored liquid with natural odour	
performance properties	effective pH range: 4.0-11.0	temperature range: 5-50°C
packaging	available in 500ml, 1, 2.5, 200 litre pack sizes (Shelf life of 24 months in an original unopened container).	

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